

3. DEBARKING BEHAVIOUR OF ELEPHANTS, *ELEPHAS MAXIMUS INDICUS* IN VAZHACHAL FOREST DIVISION, KERALA, SOUTH INDIA

Elephants peel off the bark of trees for various purposes. Guy (1967) and Olivier (1978) related debarking to extract water and minerals. Sukumar (1989) observed considerable consumption of bark during the dry season, contrary to the observations of Laws *et al.* (1975). Sivaganesan (1988) pointed out increased mineral content as a possible reason for debarking whereas Croze (1974) observed calcium content in bark as the main reason. However Anderson and Walker (1974) found no relationship between degree of debarking and mineral content of plants. McCullough (1973) described debarking as the response of elephants to a deficiency in essential fatty acids. Sivaganesan (1988) observed debarking and uprooting mainly in lactating and pregnant elephants compared to other individuals. Damiba and Ables (1994) suggest that debarking is self treatment with compounds contained in the bark of trees like *Lannea*. Debarking may be location and situation specific. We studied debarking in 1994-95 in Vazhachal Forest Division while working on habitat utilisation of elephants, covering forests and plantations on which studies were not made earlier.

Vazhachal Forest Division is located in Thrissur and Ernakulam districts of Kerala, south India. The Division, part of which forms the Protected Area Network proposed by Rodgers and Panwar (1988), holds a good population of Asian elephants. The area comes under the purview of Project Elephant and experiences a high tourist influx every year. Observations on debarked trees were made all over the Division. The results are detailed in Table 1. About 36 species were debarked in the Division. Frequent incidence of debarking was found in *Tectona grandis*, *Acacia auriculiformis*, *Grewia tiliifolia*. Further studies are required to identify the exact cause of debarking behaviour and to curtail it, because many forest plantations have to be abandoned, or hold low stocks due to elephant damage in combination with *Mikania micrantha* infestation.

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TABLE 1
LIST OF TREE SPECIES DEBARKED BY ELEPHANTS IN VAZHACHAL FORESTS

Sl. No.	Local Name	Scientific Name	Family	Sl. No.	Local Name	Scientific Name	Family
1.	Teku	<i>Tectona grandis</i>	Verbenaceae	13.	Pattippunna	<i>Dillenia pentagyna</i>	Dilleniaceae
2.	Elavu	<i>Bombax ceiba</i>	Bombacaceae	14.	Chadachi	<i>Grewia tiliifolia</i>	Tiliaceae
3.	Acacia	<i>Acacia auriculiformis</i>	Mimosaceae	15.	Sesbania	<i>Sesbania grandiflora</i>	Fabaceae
4.	Vatta	<i>Macaranga peltata</i>	Euphorbiaceae	16.	Veeti	<i>Dalbergia latifolia</i>	Fabaceae
5.	Anaviratty	<i>Laportea crenulata</i>	Urticaceae	17.	Marotti	<i>Hypnocarpus pentandra</i>	Flacourtiaceae
6.	Vaka	<i>Albizia falcataria</i>	Mimosaceae	18.	Manimaruthu	<i>Lagerstroemia reginae</i>	Lythraceae
7.	Irul	<i>Xylocarpa xylocarpa</i>	Mimosaceae	19.	Kumbil	<i>Gmelina arborea</i>	Verbenaceae
8.	Venga	<i>Pterocarpus marsupium</i>	Fabaceae	20.	Poovam	<i>Schleichera oleosa</i>	Sapindaceae
9.	Thalir	<i>Flacourtia cataphracta</i>	Flacourtiaceae	21.	Kurangu Manjal	<i>Mallotus philippensis</i>	Euphorbiaceae
10.	Athi	<i>Ficus racemosa</i>	Moraceae	22.	Pezhu	<i>Careya arborea</i>	Lecythidaceae
11.	Nasakam	<i>Euodia roxburghiana</i>	Rutaceae	23.	Vattakumbil	<i>Mallotus albus</i>	Euphorbiaceae
12.	Madukka	<i>Xanthophyllum arnottianum</i>	Xanthophyllaceae	24.	Eucalyptus	<i>Eucalyptus citriodora</i>	Myrtaceae

TABLE 1 (contd.)
LIST OF TREE SPECIES DEBARKED BY ELEPHANTS IN VAZHACHAL FORESTS

Sl. No.	Local Name	Scientific Name	Family	Sl. No.	Local Name	Scientific Name	Family
25.	Murukku	<i>Erythrina indica</i>	Fabaceae	31.	Edampiri	<i>Helicteres isora</i>	Sterculiaceae
26.	Malayathi	<i>Bauhinia racemosa</i>	Caesalpiniaceae	32.	Encha	<i>Acacia intsia</i>	Mimosaceae
27.	Venteku	<i>Lagerstroemia microcarpa</i>	Lythraceae	33.	Maruthu	<i>Terminalia paniculata</i>	Combretaceae
28.	Nedunar	<i>Polyalthia fragrans</i>	Annonaceae	34.	Edana	<i>Olea dioica</i>	Oleaceae
29.	Vetti	<i>Aporusa lindleyana</i>	Euphorbiaceae	35.	Papita	<i>Pterocymbium tinctorium</i>	Sterculiaceae
30.	Malayuram	<i>Pterospermum reticulatum</i>	Sterculiaceae	36.	Uthi	<i>Lannea coromandelica</i>	Anacardiaceae

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4. VAGINAL PROLAPSE IN A WILD CHITAL, *AXIS AXIS* IN RAJAJI NATIONAL PARK, INDIA.

From November 1992 to May 1993, I was studying habitat use by the chital (*Axis axis*) in Dholkhand, Rajaji National Park, India. On 31st January, 1993 (morning), I saw a group of 20 chitals, including 3 fawns, foraging on a hillock. One doe had vaginal prolapse. The size of the prolapsed mass was about that of a cricket ball. The doe's normal belly suggested that it was not pregnant. No fawn attended the female during the 20 minutes of my observation.

The vagina and also the uterus can get reversed and protrude out through the vulva during advanced pregnancy or when approaching parturition. This condition is called vaginal

prolapse or ballooned vagina (Banerjee 1991). Retention of placenta or weakening of the peritoneal muscles or dystokia may cause this (Sankar 1990). It makes parturition difficult and can cause temporary or even permanent sterility (Banerjee 1991).

Sankar (1990) who reported recto-vaginal prolapse in a wild chital in Sariska Tiger Reserve concluded that animals in such condition may have poor chances of survival. I have seen two domestic dogs with vaginal prolapse. Both were emaciated, never regained health even after months, before they were put down.